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CONVENTION NOTES

Read before the Entomological Society.

Relation of Apiculture to Science.

PROF. A. J. COOK.

I once heard a well-known professor and scientist, than whom there is no better student of American agriculture, remark, that the art of agriculture was founded almost wholly upon empiricism; and that all it had to thank science for was that the latter explained what had already been determined by the empiric method. Whether this be true or not, the reverse is most certainly true of practical entomology. Economic entomology rests almost wholly upon science. Fear deters most people from bee-keeping, unless a desire to study bees, and to know more of the nature and habits of these marvels of nature, impels to that close association with bees, which practical apiculture demands.

For this reason, there is no class of men engaged in manual labor pursuits which possesses the intelligence and enthusiasm which characterize apiarists, or which practices so much that is really scientific. The successful apiarist of to-day must be able to inspect every part of his hives; must be constantly familiar with the precise condition of every colony of his bees; must be possessed of quick and accurate powers of observation. Thus we understand why science has gleaned so much from practical apiculture.

The nature of the several bees in each colony, as to sex, function and longevity, is now well known to every intelligent apiarist. The peculiarity of queen, drones and workers, and the peculiar duties of workers of different ages, are matters of daily observation.

The queen is seen to lay 3 or 4 eggs per minute, and the apiarist, by adding comb with empty cells, proves that she may lay as many as 4,000 eggs der day. Aristotle was correct, then, in calling the queen the mother, and Virgil wrong in pronouncing her to be the king. Her hatred to rivals is easily shown by the certain combat, fatal to one of them, when two queens are placed together. This enmity induces swarming, as bees rarely suffer a plurality of queens in the same hive. In swarming the queen never leads, yet the special place of clustering is usually determined by the queen. Unless the queen accompanies the swarm, the latter will always return to the hive.

By clipping one wing of a virgin queen, so that flight will ever after be impossible, the bee-keeper quickly proves the correctness of the great Huber's discovery, that queens always mate on the wing. The same experiment proves the correctness of Dzierzon's more wonderful discovery, that drone bees are a result of agamic reproduction. No queen whose wing is clipped while yet a virgin, so far as I have observed, and I have tried the experiment many times, will ever lay eggs that will produce other than drone bees. It is also true that if a queen is forced to virginity for 3 or 4 weeks, she will always remain a virgin.

Upon the queen's return from her mating flight, we may observe the evidence of success, as she always if successful bears away a portion of the drone's reproductive organs, which remain attached to the queen for some hours.

It was a theory of the late Samuel Wagner, that the placing of unimpregnated eggs in the larger cells of the drone comb, and the impregnated ones, in the smaller worker cells, was simply automatic. The pressure of the smaller cell upon the queen's abdomen, forced the sperm cells from the spermatheca, as the eggs passed by. As there would be no such pressure from the larger drone cells, the spermatoza would not be extruded from the spermatheca. Practical bee-keepers have shown this to be untrue.

Queens have been seen to lay eggs in the still larger queen-cells, which are always impregnated. The queen often lays in worker cells, where the walls are but just commenced, and where there is no compression; yet such eggs are always impregnated. That the bringing of the sperm cells into connection with the germ cells, or the withholding of them, as the eggs are to produce females or males, is a matter of volition with the queen, is sustained by the muscular character of the spermatheca. It is a curious fact, that young queens, when they first commence to lay, often put several drone eggs into worker cells, though after the first day or two, they generally deposit only impregnated eggs for the first season. It seems probable, that the muscles of the seminal sack of the queen do not act efficiently until somewhat in practice.

An anomalous physiological fact is illustrated in the flight of the queen when swarming takes place. Though she may not have used her wings since her marriage flight, possibly for two or more years, yet the muscles are by no means atrophied, as shown by her rapid flight, often several miles, *en route* to her future home.

The reason why a few impregnated eggs develop into queens, while thousands of the same produce worker bees, appears to be wholly due to quality and quantity of food. The enlarged cell is necessary to a full-sized queen, but not to a queen. The exceptional position of queen-cells is simply for convenience, as it is not important.

Direct observation, as also her removal from the hive, shows that the only function of the queen is to lay eggs.

I have known queens to lay with no abatement of fertility for 5 years, though often in one or two years she ceases to be prolific, either from her own impotency, or from a depletion of the spermatheca, in which case only drone bees are produced. Usually the worker bees arrange to supersede the queen before she becomes an exclusive drone producer.

Common observation proves that the drones are males, that they are great eaters, and that they have no function in the economy of the hive, except the sexual function. As already explained, the drone loses a portion of his reproductive organs, in mating, which is attended with immediate death.

Though doubt is sometimes expressed as to the origin of drones by parthenogenesis, there is no such doubt among intelligent apiarists. If the wing of the virgin queen is clipped, or the entrance to the hive so contracted that she cannot fly, or again, if she is reared when there are no drones, she will be, not sterile, but from her eggs will come only drones. Often these will be in the small cells, when the drones will be no longer than the workers. The eggs from fertile worker bees, and also from old queens, with depleted spermathecas, will likewise produce only drones. In appearance and structure these drones are every way normal. I have no doubt but that they are functionally perfect.

There is an interesting fact connected with the appearance and disappearance of drones, whose explanation seems to call for an intelligence above instinct. As the colonies become very populous in spring, the worker bees build drone comb, and rarely even tear down and replace worker with drone cells, and the queen lays the unimpregnated eggs in such cells, preparatory to rearing queens, and to swarming. If we remove a queen, none but drone comb will be built. Now suppose a colony is strong and preparing to swarm, and suddenly, from lack of bloom, continuous rains or great drouth, the secretion of nectar suddenly stops. Honey gathering of course ceases, brood-rearing is discontinued, and, not infrequently, the bees kill all the drones, and even drag the larvæ and the pupæ from the cells. As soon as the honey harvest is hopelessly cut short by the autumn frosts, the worker bees commence at once to bite and worry the drones, till the latter are driven forth to die. But if the colony be queenless, or if the queen has become superannuated, the drones will be permitted to remain in the hives all winter. The fate of the drones hangs on the prosperity of the colony. With rapid increase of bees and honey they are safe; adversity in these respects, unless caused by loss or impotency of the queen, betokens their speedy extinction.

Drones are tolerated in a strange colony, which is not generally true of either the queen or the workers.

The longevity of drone bees, as we have seen, is largely dependent upon circumstances. There is good reason to believe that they may live through the entire season.

The worker bees are imperfectly developed females, which from receiving less and different food while larvæ, are immature in their sexual development. A worker larva, less than 3 days from hatching, will, if given more and richer food, develop into a queen. If an apiarist allows a colony to go queenless for a long time, fertile workers are almost sure to appear, from whose eggs, however, none but drones are produced. Some apiarists suppose that such workers receive, perhaps by accident, a richer and more abundant pabulum. I have wondered if this might not verify Lamarck's idea of evolution. The bee desires eggs, and the deeply felt want induces the extra ovarian development.

The worker bees are shorter than the drones and queen, and less robust than are the drones. Their wings are small but strong, and move very rapidly in flight. When the bees are angry the rapidity is still more marked, and there is a corresponding increase of pitch to the hum.

The workers, as the name implies, do all the work of the hive, hence a reason for their better developed mandibles, with which they cut comb, remove cappings and dig pollen from the cells; their longer tongues and maxillæ, with which they extract nectar from deep tubular flowers, and the deep baskets on their posterior tibiæ and basal tarsi, which are wanting in the queen and drones, in which they carry pollen and propolis to their hives. As they protect the hives from intrusion, they need and possess a better developed sting than that of the queen, which is only used in dispatching rivals.

By the introduction of Italian bees, which differ greatly in color from the German or black bees, bee-keepers have learned that the old bees, for the most part gather the honey, pollen and propolis, while the young bees remain within the interior of the hive and secrete the wax, build the comb, feed the brood and cap the brood cells, though the old bees will do the work of the young ones if for any reason the natural equilibrium of the colony is destroyed.

That bees possess and use the sense of smell is obvious to the apiarist. If he unite 2 colonies, they often engage in fierce combat, which only terminates when one of the parties is vanquished. By smoking, sprinkling with an essence, or otherwise giving to both colonies the same scent previous to the union, perfect peace and

harmony is secured. The same fact leads to somewhat similar precautionary measures in introducing queens.

In going to any place, bees seem to be guided by direction rather than sight. Thus if we move a hive, but for one or two feet, the bees will, for days, descend to the old position, and then turn abruptly to the hive. I have been led to notice a strange exception to this; by placing honey on a porch of one or two houses that are exactly alike, but about 5 rods apart, many bees were misled and swarmed about the porch on which there was no honey. The experiment was several times repeated.

Experience shows that bees will winter quite as well with pure honey or sugar syrup for food, as though they had pollen with it. They may be kept healthy at least for a time, in confinement, in summer, on a pure hydro-carbonaceous diet, and will secrete wax and make comb with the usual activity. But pollen is a *sine qua non* to brood-rearing. Probably it is also necessary for the old bees, at times of great activity. Bees also need water. Unless very active, this want seems to be met by the water of the honey; but in shipping bees they are now generally fed with candy or crystallized sugar, and unless water is added, they perish in a few days.

Nectar, as gathered from the flowers, contains much more water than does the honey. The bees leave the nectar, which is often nearly as thin as water, some time before capping, until the necessary evaporation has transpired. Bee-keepers call this the curing process. Some nectar is so thick that it is capped very soon, though frequently it remains for days, and rarely is it of such a nature that it does not thicken, and the bees refuse to cap it at all. Such nectar, usually from bark lice, etc., is unwholesome, and unfit food, even for the bees. If thin nectar is extracted, bee-keepers evaporate the moisture from it by artificial heat, as it does not preserve its quality unless rid of the superfluous water.

One of the most terrible disasters that can befall the apiarist is to become the victim of foul brood. In this terrible disease a fungus attacks the brood, which causes it to become putrid and disgusting. It is very contagious. The disease is common in Europe, and has brought ruin and discouragement to apiarists in several of our own States. Spraying with salicylic acid has been found an efficient cure.

The enemies of bees is certainly a matter of much interest to all scientists, and especially to zoologists. Among mammals, shrews and mice are often quite destructive to bees. The kingbird, *Tyrannus Carolinensis*, captures worker bees, although it is partial to drones. Toads and frogs seem to lap up bees with no inconsiderable relish, and often work quite successfully to deplete the hives.

Bees have many and formidable foes among insects. In the order Hymenoptera, a species of Xylocopa, probably *X. micans*, has been observed to kill bees in North Carolina. The cow killer, *Mutilla coccinea*, destroys bees in the States from Central Illinois to Texas. It has been reported several times that ants are at times a serious foe to the honey bee. It is stated that they not only worry the bees by invading the hive, but that they sometimes kill both the queens and workers.

The only lepidopterous insect which annoys American apiarists is the bee-moth, *Galleria cereana*. And even this is no dread to the intelligent apiarist. It is found that strong colonies of bees—and none others pay—and especially if Italians, will always defend themselves against this enemy. It is only weak or queenless colonies that succumb to this foe.

Among Diptera, *Bombylius Mexicanus*, is reported to enter the hives, in Texas, without resistance and lays its eggs, where the prospective larvæ will be nourished and cared for, without labor on the part of the mother fly. The family Asilidæ affords the most serious dipterous pests to the apiarist. Of these there are at least 3 species of Asilus, 2 of Mallophora, 2 of Promachus, 2 of Laphria, and 2 of Erax, that catch and kill bees. These predacious flies work the most serious mischief South, but are not exempt from blame even as far North as Ontario. A parasitic fly of the family Tachinidæ is destructive to bees in several of the States.

In importing bees, the bee louse, *Braula coeca*, has been introduced from Europe; but so far it promises to do little harm in our country.

Amongst Heteroptera, *Phymata erosa* is a dreaded foe of the honey bee. From its close mimicry of the flowers of many composite plants, in which it is wont to hide, it finds it easy to grasp the bees with its unique anterior legs, when it soon sucks out their life juices. *Mantis corolina* kills bees from Central Illinois to the Gulf.

Many of the Libellulidæ, chief among which is *Anax junius*, are so fierce in their onslaught on bees, that they have been termed bee-hawks. These marauders depredate in all sections of our country.

I need not speak, at this time, of the value of bees in fertilizing flowers, as that has been ably discussed by our botanical friends. That bees ever injure buckwheat or other plants, by seeking nectar from their bloom, as is sometimes claimed, is known to be erroneous by all present. That they are equally harmless to grapes and other soft-skinned fruits is not so generally granted. Personally, I have never seen a case, though I have several times gone quite a distance to see them at the request of positive individuals. In each case the bees were found never to attack sound fruit, but only to sip from such as had burst, or been torn by other insects or by birds. While I am not positive that bees are never guilty of such wrong-doing, I do feel certain that such actions if ever true, are quite exceptional. I have lived in California in the midst of apiaries and vineyards, and I have yet to see the first case of such depravity among bees.

The 2 great improvements in apiculture since the Langstroth hive, and scientific knowledge gave the apiarist such control over his bees, are the extractor and comb foundation, both of which are recent inventions. In both cases the thought came from Germans, but perfection in carrying it out is due to Yankee genius.

The honey extracter works on the principle of centrifugal force, and by its use honey may be thrown from the combs before it is capped over, or afterward if the cappings be first removed with a knife. By this practice the comb is used over and over again, and as a result, at least twice as much honey can be secured. Experiment proves that it takes at least 20 pounds of honey to secure one of comb, besides the time of secretion is lost, as bees are usually quiet when employed in secreting the wax-scales.

Extracting is often very necessary to furnish room for the queen, so that she may lay eggs. In times of great honey secretion, the workers so fill the cells with honey that the queen finds no place for her eggs, so brood-rearing ceases, and as the workers live only for a few weeks during the active season, depletion of the colony is rapid and sometimes is carried to a fatal extent.

When bees cease gathering, from lack of nectar secretion the queen stops laying, and all brood-rearing ceases. Nothing is found to pay the apiarist so well as to feed sparingly, whenever there is a cessation from gathering honey, and so keep his colonies strong. The extracted honey furnishes a cheap and excellent food for this purpose.

Comb foundation is made from pure beeswax and is a perfect copy of honey comb, as just commenced by the bees, except that it is much thicker. When given to the bees, they at once accept it, thin it to the usual thickness of natural comb, and use the parings to complete the cells. This saves the time and work of wax secretion and comb building, and secures straight combs, and exclusive worker cells.

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CORRESPONDENCE.

For the American Bee Journal.

Poor Crop, Wooden Separators, etc.

JAMES HEDDON.

A May drought put white clover back so it lapped over on basswood; the latter yielded honey very moderately, and for a short time only. We could hardly tell when it commenced and left off. I report the white honey crop (which is usually about ⅔ of all) as not over ⅓ of a crop here. We now look forward to fall flowers. "Hope on, hope ever;" "Man never *is*, but always *to be* blessed."

Messrs. Greiner Bros. say their bees are just going for the side boxes and almost neglecting the top ones, and that this individual experience of theirs is better argument than any philosophy. Yes, it is to them; but Mr. Demaree says that he is "sorry that Mr. Heddon asserts that bees will attach the comb to wood separators, because it indicates he writes about some things about which he knows but little." I had used wood separators, and know of their being thrown aside by others. It is my duty, as a stranger to Mr. Demaree, to try to point out to him that there is philosophy in supposing that bees would not be as likely to attach a comb to a substance that was moist with condensation, so hard that the bees could not move the first particle of it when they wish to lay the first scale of wax with which to make a "brace," and a substance entirely foreign to them in a natural state, as they would to wood, which is their time-honored housing. I ought to try to show him that the main reason why tin is objected to, is a good reason why the bees will not be so likely to attach bits of comb to it, to leak and muss up our surplus when removed. I ought to ask him if he has not found out that even painting a surface tends to prevent comb attachments? To convince him, I am too far off; his experience is close by, and his reason still closer.

Dowagiac, Mich., July 13, 1881.

For the American Bee Journal.

Cleome as a Honey Producer.

D. S. GRIMES.

My hobby has always been trees, fruits and flowers, but 3 years ago I added bees. Although ignorant and inexperienced in the business, I found them an interesting subject of study, and soon learned to love them on account of their intelligence, industry, and the sweet stores of honey provided for our table, here in an altitude high and dry.

In reading the experiences of the correspondents of the BEE JOURNAL I have learned much. Since I learned to treat bees with gentleness and common-sense, my daily pilgrimage through beds of flowers and blocks of nursery stock, on the double-quick, driving a few angry bees around, has ceased—we understand each other better. I have learned, also, that when bees find but little honey to gather, and are hungry, they are cross.

Last year I had 40 colonies, but my manipulations in dividing and wintering destroyed half of them. I have the 40, save one, again—strong and healthy (thanks to the BEE JOURNAL and Mrs. Harrison)—now gathering and storing large quantities of excellent honey from cleome, the Rocky Mountain bee plant. Were it not for this valuable honey producing plant, bees in Colorado would find poor picking from now on. As the bloom of the raspberry, white clover, and wild flowers of the plains pass out of season or dry up, then this bee plant commences to bloom, and continues to grow and bloom until cut off by frost. To the apiarist this plant promises a valuable future, and should be better known. The seed being almost as heavy as mustard seed the wind will not blow it away, but it remains where it is first sown, preferring the road-side or waste places, where the plow and hoe are not used. Bees probably do better in the parks and valleys of our mountains than around Denver, on account of the large quantity and variety of flowers found there.

There is a plant growing all over the Rocky Mountains, up to the snow-line, the mountain people call it "kinicanick" (I do not know the botanical name). This plant has small, thick, dark-green leaves, growing flat on the ground, covering the earth like a green carpet, producing a small white flower in early spring, which continues in bloom a long time. From this plant bees find pasturage equal to white clover.

A boarding house keeper, on Bear Creek Canyon, at an altitude of 10,000 feet, has a small apiary doing remarkably well. He has never had a case of dysentery, or any other disease, among his bees, and his honey is equal to the best California. Success to the BEE JOURNAL.

Denver, Col., July 16, 1881.

For the American Bee Journal.

Stingless Bees of South America.

C. A. HARDEY, M. D.

DEAR EDITOR: In compliance with my promise, I send you a description and history of the stingless honey bee, as seen by me in Mexico, from notes made by me while there. This bee, slightly differing in size and color, is found in the heart of the dense forests of the middle and southern parts of Mexico, and all the States of South America. It hangs its hive or nest upon branches of trees, like the *Apis dorsata* is said to do in Java and the islands of the far East. This nest is composed of nearly the same material as that of the large yellow hornet, is pear-shaped in form, is from 18 inches to 3 feet long, and from a foot to 20 inches in diameter, is divided into partitions, or portions, not unlike an orange, with passages an inch wide running from top to bottom, of very thin material, like gray or brown paper.

There are one or more entrance holes near the top, each protected by a cap or portico from rains, with one or two holes at or near the bottom for exit; these holes are about 1¼ inches wide, and are large enough to permit several bees to go in or out at once.

The hive is suspended by 2 or 3 ligaments of strong fibrous material, slightly elastic, permitting the gentle balancing of the hive from the action of the wind. The hive is thoroughly water-proof on the outside, somewhat rough, of a brown or grayish brown color; on the inside it is smooth and of a delicate yellow, and extremely clean. The honey cells are elongated, about ½ inch in diameter, rounded, and slightly perpendicular, and about 1 inch long. The brood-cells are slightly less in size—¾ of an inch long and ⅜ in diameter—they are placed like gently rising steps, one above the other, adhering to each other by one side. Some of these nests are very large and heavy; some must have weighed 100 pounds.

The cells are situated always opposite each other, that is, are attached to opposite sides of the divisions, with inch holes here and there for free passage.

The workers are about ⅙ inch long, of a yellowish color, strongly made, black head, black crescent on the back, with white bars in the corselet divisions, have very long tongues and strong mandibles—their only defense—which inflict severe bites when the bee is angry.

The queen is nearly an inch long, of a bright-yellow color, brownish head

with white star in forehead, is very corpulent and very quiet, unless disturbed by a blow upon the nest or a violent wind. These queens did not move until the combs were taken out, then, after flying around a little, they returned to the hive or nest.

The drones or males resemble the workers in color, but have the white star like the queens. Both the drones and queen have yellow bars upon the corselet, but those of the queen are of a golden-yellow, inclined to azure. The drones are about ⅝ of an inch long, very corpulent, and apparently very indolent. The workers are very active from sunrise till about 11 o'clock, they then cluster about the nest or branches near the nest.

The honey is very rich in taste in the spring, but I am told that in the latter part of the season it will cause vomiting and purging in certain places, where the wild locust and jessamine are abundant.

The bees may be found in the dense forests and chapparals from near Matamoras to San Louis Potosi, and perhaps to the Pacific. I found them at Matamoras near Lago del Muerte, near Reynosa, in the mountains near Monterey, and in the regions along the route from Monterey to San Louis Potosi, also at Monclova. They may be found in the regions around Tampico, in Gautemala, Brazil, and other South American States. The natives sometimes bring the nests for sale, honey and all; the holes of entrance and exit closed with a plug of grass, and the nest swung upon a pole over the shoulder.

Might not this race of bees be crossed with the Italians or Cyprians? Will they endure our winters? They are very gentle, never even biting unless abused.

I removed the honey from the nest by simply slitting upon the outside covering or case, turning a portion back and cutting out the part wanted, the bees flying around making a noise something like that of the common humble bee, though a little sharper, lighting upon the person and crawling around with great activity and excitement. These nests are difficult to find and are always in the deepest and most shaded parts of the forests.

Chataignier, La., July 12, 1881.

[We see no object to be attained by crossing the stingless bees with the improved bees we now have, even if it were possible. They are quite small, and not at all suited to our climate. Their severe "bite" might prove more objectionable than the stings of Italian bees; or the crossing might develop "business" qualities at both ends. We do not think we want the stingless bees.—ED.]

For the American Bee Journal

The Bee-Nuisance Question.

J. H. MARTIN.

I think, in relation to this nuisance question, that Mr. Heddon does not take into consideration the fact that the case I mentioned was located in a little hamlet of half a dozen houses, and only 2 or 3 families were afflicted with bee stings. I think in that, and all similar cases, an interchange of neighborly civilities would have healed all pains. If I give my neighbor a pound of honey he will, in due time, return the favor, unless he belongs to that class of four-footed beasts which once ran down a steep declivity into the sea.

I not only give to my neighbor, but his family sometimes, during the extracting season, come into my apiary, and I give them of the fruits of the time; but a few ounces are consumed, and it is a pleasure to us to see them get satisfied. A bee-keeper in an adjoining town adopted the plan of kicking and stoning boys who came near his bees; the result was that one morning several hives were found tipped over, and the colonies nearly ruined. If those boys had been fed judiciously they would have been helpers instead of destroyers. The motive of giving may be termed fear, or selfishness, but we think the little rule: "Do to others as you would have others do unto you," covers the case.

When an apiarist gets so penurious that he cannot part with a few ounces of honey, he belongs to that four-footed class above referred to. Not to be misunderstood, I refer only to localities in the country, many miles from large villages. If I were located in such a place where the giving became a wholesale transaction, I, too, would choose who should be the recipient of favors.

In all these cases of nuisance, when applied to bees, one fact is very prominent. The bee-keeping business is looked upon by the majority of people as a small occupation—"fussing with bees" is the usual term applied to it. Our neighbor runs a dairy of 20 cows, and who ever heard of a man "fussing with cows?" His manipulation of cows' udders brings him in $400 or $500; our bees net us as much with less foddering. Still his dairy is a big thing, and is getting to be of so much importance that the Goddess of Liberty should have a roll of butter in one hand, a cheese in the other, and a calf tied to her apron strings.

We find, in nearly all cases of nuisance, it is that which causes injury to people that is complained of. A stench, that carries disease and death with it, from any cause, is soon abated, and when a person gets stung and has to call a physician he does not think of your one or two thousand a year, it is of the danger to himself. Our bees might roar every day, the year round, and no one would call them a nuisance.

Those logs Mr. Heddon speaks of are very harmless, but arm each one with a spear, ready to pierce the traveler, and the mill and its surroundings would soon be denominated a nuisance. The same with the steam-whistle, if it caused pain or swelling in the ear you would soon hear no more of it, but as we are a 4th-of-July nation, the majority of us like a good deal of noise. In conclusion, we think we are greatly blessed by having our bees located in the quiet country. We have none of those opulent, purse-proud, selfish families for neighbors. We all stand upon a common level, and can interchange courtesies without motives of fear or selfishness.

Hartford, N. Y.

For the American Bee Journal.

Wintering Bees without Loss.

D. S. BASSETT.

I am well aware that the subject of wintering bees is rather old now, but as we shall soon have to go through with it again I thought no harm in telling you how I have done for the last 4 winters, without the loss of a single colony. I have but few colonies, but keep them just as well as I know how. Last winter I had 9. I increased by natural swarming to 19, and did not feed them, either. Now I have 30 from the 9. My bees are very hardy, I think. My first experience in wintering bees was in box hives, and since that in Root's chaff hive, using oat chaff altogether. I put the bees on as few frames as possible, with plenty of sealed honey, and use a division-board made of lath, thin boards nailed on one side and duck on the other. I put the duck next to the bees, in winter, filling all the space between the division-board and the hive with loose chaff. I put 2 thicknesses of Java canvas over the bees; then I put a good half bushel of loose chaff on the canvas, and then put the large chaff cushion on. In 2 hives the loose chaff became rather damp in February, and I changed it for dry. Last winter my bees were 4 colonies of blacks and 5 of Italians; now I have 5 blacks and 25 Italians and hybrids. My blacks swarmed 4 days before the Italians. I take 6 bee papers, and I like them all, but it is nice to have one every week, and especially one as good as the AMERICAN BEE JOURNAL. You may put me down as a subscriber as long as I keep bees, and I wish its editor health and success.

Farnumsville, Mass.

For the American Bee Journal.

The Honey Crop in California.

J. D. ENAS.

About the last that I wrote to you regarding our honey crop was a favorable prospect for a good supply of the nectar; that was at the beginning of the season. The prevailing idea now among the majority of honey producers is that we shall not have much surplus. In some counties the reports are more favorable than in others. San Diego, for instance, but even there it differs, if near or further from the coast. Frost, cool rains, and cool weather (especially cool nights) have had much to do with poorer returns than last season, although the season was one month earlier than the season before. Wild flowers did not go to seed; the bloom was prematurely killed, and at one time neither pollen nor honey was gathered, and the queens stopped laying.

Some honey is being gathered now, and the queens are laying again. Pollen from fall flowers is coming in plentifully from the California poppy and doveweed. My bees are working on the azalia. Some melilot, that I allowed to go to seed last fall, and appeared above ground in the spring, on unplowed land or stubble, has entirely disappeared. I found a large bed of blue sage that showed the effect of the frost; it had scarcely any seed in its pods, and most of that was white and had not ripened; although it grows from the root, it does not die out in our winters. I find that the poplars are shedding their leaves, as well as the almonds. These are signs of early fall weather; in fact the weather has seemed more like fall than summer. We have had only a few very warm days. As soon as the sun gets down a great change in the atmosphere seems to take place, probably owing to the planets or the comet.

I increased 50 per cent. by natural swarming, though I kept it back as much as possible. All my colonies are in good condition, though at one time they had a very little honey. By using comb foundation most of them have filled out their hives, besides replacing some old drone and irregular combs. I gave all partly-built combs, after trimming out the imperfect parts, to young laying queens in 3-frame nuclei. I save the empty perfect comb by tiering up, using false ends to rest the frames on, as they are in the hive, over a 12-inch box, with an iron pan set in it, and burn sulphur in the pan, occasionally, until time to use them again. They must be kept dry or they will mold, and must be often examined. I do not think it worth while to save any but perfect comb, for by using foundation combs are quickly built in the spring. I hive swarms on empty frames, except one frame of brood, and 2 outside empty combs or those partly filled with stores. After giving them foundation I have had the lower part built out ready for extracting in one week; in some cases by returning the bees and old queen.

It is hard work to rear early queens, as they have many enemies that catch the young queens; after May there seems to be less risk.

My bees seem to be all working eagerly, although honey is not coming in very fast, but just enough to encourage brood-rearing.

Those bee-keepers that still use twine and sticks, or nails in transferring, should try the wires that I described in the BEE JOURNAL some time ago, and I think they can do it more easily and quickly, and also more satisfactorily to themselves and the bees.

I will now describe the form of my hiving-box. When a swarm comes out, the queen's wing being clipped, she remains on the ground; I pick her up, cage her, and fasten the cage to the pole inside the hiving-box by a string or wire, holding the box in the middle of the swarm if in the air, or just over the limb or bush where they are clustering, or if clustered, just over them. They will soon find out the queen and cluster on the box; if not, I drive them with a little smoke.

I have had half a dozen swarms secured in this way, with only one box, almost as fast as they came out, and only a few on a limb. Give me a difference of 1½ minutes, or 2, at most, and I will keep them from uniting. From 6 to 12 are necessary, according to the size of the apiary. When I have a queen that I do not care to save, I use this cage to keep her in. I have kept queens in cages for 2 weeks at a time. The bees will not let her starve. At one time I kept a queen on top of a hive for several days alone; I found a half pint of bees clustered about her and feeding her. She was lively. I use wooden cages so that she cannot be chilled. I use a common starch box, the long way up and down; one side open, the other full of 1-inch holes, one false end, ⅝ of the way down, for strength. The pole is 1¼ inches, and of a length to suit. I have used this for 2 years.

The BEE JOURNAL is steadily gaining ground and influence on this coast.

Napa, Cal., July 11, 1881.

For the American Bee Journal.

How to Build Wintering Houses.

F. W. COMINGS.

In the JOURNAL for July 6, the editor asks some one who has a successful wintering house to describe it for the benefit of D. S. Kalley, Mansfield, Ind. I built such a one last year, and put 40 colonies into it on Nov. 18. On April 16 I took out as many, minus 2 that died of starvation; we also lost one other by starvation while on its stand.

The house is 12x18 feet, and studding 10 feet. There being no cellar under it, we dug a trench about 2 feet deep, and laid a heavy stone wall in it. Our sills were 6x14 inches. We then set up a set of 2x5 inch studs, and double-boarded the outside and sided up the inside, filling the wall with sawdust. Then set up a set of 1x2 inch studs against this wall and sided up; then another set of 2x5 inch studs and sided with matched spruce, filling the second wall with sawdust. Thus we have two 5-inch stuffed walls, and an inch dead-air space between them. Overhead we put 10 inches of sawdust, and stuffed the floor, using 4 inches for that. We use 3 doors in one end, in winter, making 2 dead air spaces. Have ample ventilations in roof and floor. I have thus given you the main points, which probably will be sufficient.

East Berkshire, Vt., July 13, 1881.

Local Convention Directory.

1881.	*Time and Place of Meeting.*
Sept.—	—National, at Lexington, Ky.
	—Kentucky State, at Louisville, Ky.
Oct, 6—	Union Kentucky, at Shelbyville, Ky. G. W. Demaree, Sec., Christiansburg, Ky.
11, 12—	Northern Michigan, at Maple Rapids. O. R. Goodno, Sec., Carson City, Mich.
11, 12—	Northeastern Wis., at Berlin, Wis.
12—	Central Ky., in Exp. B'd'g, Louisville, Ky. W. Williamson, Sec., Lexington, Ky.
25, 26—	Northwestern District, at Chicago, Ill. C. C. Coffinberry, Sec., Chicago, Ill.
27—	Central Michigan, at Lansing, Mich. George L. Perry, Sec.
27—	Western Mich., at Berlin, Mich. Wm. M. S. Dodge, Sec., Coopersville, Mich.
Nov. 30—	S. W. Wisconsin, at Platteville, Wis. N. E. France, Sec., Platteville, Wis.
1882.	
Jan. 25—	Northeastern, at Utica, N. Y. Geo. W. House, Sec., Fayetteville, N. Y.
April 11—	Eastern Michigan, at Detroit, Mich. A. B. Weed, Sec., Detroit, Mich.
27—	Texas State, at McKinney, Texas. Wm. R. Howard, Sec.
May —	—Champlain Valley, at Bristol, Vt. T. Brookins, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

THE AMERICAN BEE JOURNAL

THOMAS G. NEWMAN.
EDITOR AND PROPRIETOR.

CHICAGO, ILL., JULY 27, 1881.

☞ Several correspondents write with pencil, and we desire to ask them to write with ink hearafter. By continuous work, writing and studying, our eyes are getting quite weak, and it tries them very much to read long articles written with pencil. Eyesight is precious, and we wish to preserve it as long as possible.

☞ We have received from the author, J. B. LaMontagne, A. M., LL. D. of Montreal, Canada, a copy of his new work, entitled: "*Le Nouveau Manuel du Cultivateur ou Culture Raisonnee des Abeilles, de la Vigne, et de la Canne a Sucre.*" It is modern in its teachings, and though the engravings are not as nice as they should be, still we are glad to welcome this Manual for French bee-keepers. Price 75 cts.

☞ E. P. Roe's Catalogue of Small Fruit and Grape Vines, for the summer and fall of 1881, is received. It is full of information on the production of small fruit. Mr. Roe's nursery is located at Cornwall-on-Hudson, New York.

☞ We hear complaints from many bee-keepers, this season, regarding difficulty in rearing and testing queens. Some complain of the cool nights as being unfavorable for the nuclei, and others have much trouble in getting queens mated. Most breeders have found it impossible to fill all orders promptly, and have been obliged to ask the forbearance of customers.

☞ The Inter-State Exposition will be held at Chicago, commencing Sept. 7, and closing Oct. 22, 1881. At the same time and place the Illinois State Horticultural Society will hold its annual fair, the premium list of which is on our desk. Prizes are offered ranging from $2 to $100 for the best exhibits of fruits, vegetables, etc.

☞ By reference to announcement in another column, it will be seen that the National Convention will meet in Lexington, Ky., on the 5th, 6th and 7th of October, 1881. We regret that a time has been selected by the Executive Committee when we will be unable to attend, but an engagement made nearly a year ago will necessitate our absence. We would, however, urge all who can possibly attend, to do so, and make the meeting as interesting as possible.

☞ The Kentucky State Convention will meet on Wednesday, Oct. 12, 1881, at Louisville, Ky., and holds 2 days. It is expected that many who attend the National Convention, at Lexington, will also attend the State, at Louisville. The prospects for an interesting Convention at Lexingtan are very flattering.

Honey is Becoming a Staple.

The Bulletin of the Apicultural Society of Alsace and Lorraine, for July, 1881, edited by Mons. Dennler, of Enzheim, near Strassbourg, Germany, has an article upon "the importation of American honey at Hamburg during the year 1880." It says that "the Hamburg *Journal* has formulated a very interesting table on the quantities of American honey that have been imported in the past four years." In astonishment it says: "*Voice ce tableau!*"—see the table!

The total amount of American honey received at Hamburg in 1877, was 1,018,000 kilos (a kilo is 2 pounds). In 1878 it was 1,529,500 kilos; and in 1880 it was swelled to the enormous amount of 1,912,500 kilos, or nearly *four millions of pounds.*

It will be seen that the amount imported last year is double the amount given for 1878.

When the National Convention of the North American Bee-Keepers' Society, in October, 1878, appointed the editor of the BEE JOURNAL to represent the Society at the Conventions and among the bee-keepers of the Old World, it elicited considerable criticism on the part of some near-sighted bee-keepers, who could see no market beyond their own limited home trade, and could recognize no right for others to engage in an enterprise which might by any possibility come in competition with themselves. But the Convention, with a wisdom for which it has not received proper credit from the bee-keepers of America, foresaw the advantages to be derived from the cultivation of closer relations with foreign bee-keepers.

In 1880, the Delegate visited most of the more prominent apiarian societies of Europe, and was received with cordiality and courtesy by all. But much prejudice was discovered to exist against American products, and especially was this the case regarding honey. In England the public had been frequently imposed upon and become disgusted with vile trash sold as "Pure Strained Honey;" while in France, Italy and Germany, it was incomprehensible how the Americans could produce such vast amounts of *apparently* superior honey, and compete with their own producers, after paying exorbitant freights.

The Delegate appreciated the immensity of the market awaiting our product, but realized the necessity for removing distrust, and wherever he went, labored with this object in view. It was not enough to assert that our honey was superior to theirs, but he was obliged to prove why it was; nor was it sufficient to claim that we could produce pure honey and meet the public demand at popular prices, but he found it best to demonstrate *how* it would be accomplished.

However, a limited few in this country looked with disfavor upon the whole movement. We copy the following from the minutes of one of the Western Conventions:

Much discussion was had *pro* and *con* in regard to sending delegates to Europe to instruct their people to keep bees in a better way, thereby causing them to produce more honey to compete with our own honey. Some were opposed to such a course, saying it would injure our foreign honey markets; others favored it, claiming it would increase our sales, as the more honey was advertised the more it would be bought.

Another Convention had the following question for discussion:

"Is it advisable to send delegates to foreign countries to educate their people in the advanced methods of bee-keeping, to thus enable them to more readily compete with our own bee-products, and also follow the same course in this country.

Scarcely, however, had the delegate returned home, when our market became stronger. The foreign demand was strengthened, and a healthy competition was springing up. We give the following extract from a letter received from the principal honey dealer in England:

You might cover Europe with the most approved modern bee-keeping appliances, but you could not prolong our honey seasons. Bee-keeping here can never be pursued as a business, because our honey seasons are of no consequence; so all fears of our competition can be discarded as absurd and ridiculous. You here rendered me great assistance in abolishing the unfair prejudice existing about that time in the minds of English consumers against American honey; in fact, it was remarked by many that the whole of your valuable time was devoted to this most important desideratum. Time which almost all visitors to this country would have spent in sight-seeing, you occupied in counteracting the many absurd stories about "stuffed honey combs" launched into this country from America. You deserve and will have great credit for your tireless efforts in that direction.

Now we have the gratifying intelligence, in German figures, that the sale of foreign honey in Germany has nearly doubled in the past four years, reaching an aggregate almost equivalent to one-eighth of the entire product of North America. But very few years can elapse before Europe will eagerly consume our whole surplus product, and seriously encroach upon the portion required for a liberal home consumption; and while the honey itself is rapidly becoming a staple production, and finding its way as such into the markets of the world, the price is as rapidly assuming a stability as is that of butter, cheese, lard, etc. A couple of years since a familiar correspondent querulously wrote, in substance, "Bee-keeping will pay, as an occupation, when honey shall have become as staple as is beeswax, for the latter is as staple as gold." We believe we have about reached that time; and it only remains for the bee-keepers themselves to maintain it as such, by producing a superior article, and selling it only at a remunerative moderate price; by exercising at least an ordinary business judgment in providing sufficient pasture for the bees, so that one season may not be a plethora and the next prove a dearth, and by cultivating a generous, fraternal spirit, remembering that the same wise Creator who placed us here and imbued us with generous as well as selfish natures, also created the balance of mankind, and endowed them with equal reason and rights.

C. F. Muth and W. Williamson are appointed a committee on arrangements for the National Convention, and they will, in due time, give railroad and hotel rates in the JOURNAL.

Encourage Progressive Apiculture.

Referring to the correspondence of Mr. J. S. Tadlock, and our comments thereupon, we have received the following communication from Pres. N. P. Allen, bearing date July 12, 1881:

I was pleased with the editorial remarks in the BEE JOURNAL of July 6, relating to the exhibition of bees, etc., at the National Convention. It was a good suggestion, and is better calculated to bring out the "coming bee" than anything that has been done in that direction. Let every bee-keeper who possesses what he thinks to be a superior strain, send bees for exhibition—not full colonies, but a queen with workers enough to spare a few for comparison and examination. A committee can be appointed to compare size of bees, length of tongues, etc., and make decisions as to whom belongs the honor of having the "coming bee." We can undoubtedly have on exhibition fine specimens of Apis dorsata, Syrian, Cyprian and Italian bees; also, Apis Americana, Albinos, and the German or black bees can come in for their share of the honors. Hives, honey boxes and useful implements can be exhibited. No one is authorized to offer premiums for bees in the name of the Society, but the honor of having superior bees, with the longest tongues, will amply pay for all the trouble and expense of making the exhibit. After the committee makes its report, the bees and queens can be returned to the exhibitor, or donated to the Association. I shall write to the bee-keeping fraternity in Europe to take part in the exhibition.

We are glad President Allen approves the suggestion. Not only can the National Association do much to encourage the development of the "coming bee," but Local and District Societies can also assist greatly in advancing progressive apiculture. Progress is not confined alone to the coming bee, but to every part of the business that exercises a bearing upon ultimate success. In fact, the summit of progress will not have been reached until the problem has been solved of how to realize the greatest amount of profit and pleasure, from the smallest investment of capital and labor, with the least risk. Many factors will enter upon this solution, and we believe it should be a special feature of fraternal associations to determine upon and encourage the best.

☞ The *German Zeitung*, of Milwaukee, Wis., makes the following notice of our pamphlet, a German copy of which was sent at the request of the editor of the *Zeitung*. It says:

"The Honey Bee" is the title of a valuable little work of 80 pages, intended for the beginner, and is published by Thomas G. Newman, Editor of the AMERICAN BEE JOURNAL, 974 W. Madison street, Chicago. It contains everything that is interesting to beginners; it leads off with a short natural history of the bee, and then describes the management of the same, and it also details all new inventions pertaining to bee-keeping. This book is embellished with 56 engravings, and costs but 40 cents. It may be had of the publisher, both in German and English.

☞ We have received the Premium List of the Kansas State Fair Association, to be held at Topeka, Kan., Sep. 12 to 17, 1881. We notice that $18 and 7 diplomas are offered for bee-fixtures and honey. Mr. George Y. Johnson, Topeka, Kan., is the Secretary, who will send a copy of the Premium List upon application.

To European Bee-Keepers.

The following letter from President Allen, sufficiently explains itself:

EDITOR BEE JOURNAL:—Allow me through your columns to extend the following fraternal invitation to the bee-keepers of the Old World, with a request that all bee periodicals copy the same:

To the Bee-Keepers of England, France, Germany, Italy, and elsewhere, greeting:

The time is fast approaching when the North American Bee-Keepers' Society will convene at Lexington, Ky. An exhibition of bees, queens, hives, honey boxes, implements, etc., will be one of the features during the session of the Convention. We invite you to participate in the exhibit. No gold medals or money premiums are offered, but awards will be made by a committee. All exhibits you may send will be properly attended to. We cordially invite you to be present, and take part in the discussions. Essays upon any topic in bee-culture will be highly appreciated.

Articles may be forwarded, charges prepaid, to Wm. Williamson, Lexington, Ky., Vice President for Kentucky. Hoping to meet many of our European friends, I am fraternally yours,

N. P. ALLEN,
Pres. N. A. B. K. Society.
Smith's Grove, Ky., July 12, 1881.

☞ In noticing the reception of the Indiana State Fair Premium List, we stated that we only found a premium of $5 for comb honey, in 5-pound boxes. The *Indiana Farmer* calls attention to some other premiums, on page 27 of the pamphlet. We there find the following premiums, and gladly make a note of them: "Best 10 pounds of comb honey in packages of one pound or more, $5—second $2; best 10 pounds, or more, one-pound packages of extracted honey, $5—second $2; best crate of honey in the comb, in the most marketable shape, $6; best display of honey, both comb and extracted, $5; best display of wax, $2; best machine for extracting honey, diploma; best display of bee-keepers' supplies, diploma."

The *Prairie Farmer* also adds: "Our Honorable Board of Agriculture deemed it best to leave the bees out of the list until a greater interest was shown in this department. We are sure they are willing and anxious to do all in their power to assist any and all departments in which any interest is shown."

Getting Used to Glucose.—The *Western Rural* remarks that "A writer in a certain paper says that apiarists must get used to seeing glucose honey in the market. They are used to it, but do not propose to stand it if they can help it." And the BEE JOURNAL would add that apiarists "can help it," and do not propose even to try to "get used to it!" It is a nefarious *swindle* to use the trash for the purposes of adulteration, and bee-keepers will fight it to the "bitter end."

Complimentary.—The New Sharon (Iowa) *Star*, makes mention of the BEE JOURNAL thus:

It is the standard authority in its particular line, and ought to be in the homes of every individual who is engaged in bee-culture. You have only to send $2 to Thomas G. Newman, of Chicago, and you will receive one of the handsomest weeklies published in this country.

AMONG OUR EXCHANGES.

MISCELLANEOUS.

Dividing for Increase.—Mr. Geo. M. Hawley, in the *Nebraska Farmer*, says:

All who have kept bees have seen swarms coming from the hives, rushing or tumbling out, or any way to get out, the queen coming after most of the bees have left the hive. After circling around for some time they alight on some tree, shrub or prominent object near the hive, waiting for their master to provide a shelter. After which, if it is acceptable, they go to work with a good will, in kind appreciation of his attention, and if nature is lavish in her stores of sweetness, they will abundantly pay him for services rendered. If he be negligent, however, and allows them to hang long in the cluster, uncared for, they "take matters into their own hands," and send out scouts in search of a suitable abode, to which, when found, they go. This is nature's plan of increase.

That "dividing" the colonies can be done by the careful and intelligent apiarist with equal if not better results than nature performs it, there is no doubt; but that as good results are not obtained by the majority, speaks rather against the apiarists than the system. If we observe closely we will see that bees make preparations for swarming only when they are gathering honey, and the hive is crowded with bees. They start the queen from the egg, not taking larvæ of several days' growth around which to form their queen cell, as is usually the case when accidentally or intentionally deprived of their queen. Therefore, the queen is fully developed, being reared while they were gathering honey. The queen was made much larger, and the larvæ much better supplied with food than if reared at other times.

Having seen the demands of nature we can now imitate her and by careful selection in the colonies from which to rear our queen, can make improvement much faster than if they were left unaided. If we deprive a colony of their queen, and they have brood in their hive, they will form from 5 to 20 or more queen cells of larvæ, and by a greater amount of food develop those that would have hatched worker bees into queens. In other words, a worker is an undeveloped female, by growing her in a queen cell, and furnishing her with more food she will be fully developed.

We have already seen that queens are raised naturally, during a flow of honey. If, then, we wish to rear them at any other time, the colony should be fed. Also to secure her fullest development, she should be started from an egg and not after the egg has hatched. Therefore, all brood should be taken away, and combs of new-laid eggs put in their place. Queens are so hostile to one another, that as soon as one hatches, if not taken away, she will destroy all the others. If it is desired to save the queen cells, nucleus colonies of one or more combs of brood and bees, taken from strong colonies, should be put in hives constructed with a division board; on the ninth day, all the queen cells but one should be cut out, putting a cell in each of the nuclei. After the queens have hatched and commence to lay, the nucleus colony can be built up by giving it frames of brood from the stronger colonies, putting empty frames, or frames with comb foundation, in their places.

Work for August.—In the American *Agriculturist* Mr. L. C. Root says:

During the month of August take care not to add too many boxes, or to extract too freely, in localities where fall forage is scarce. I would advise every bee-keeper to leave a few hives without extracting all of the combs. In fact, where boxing is practical, it is well to arrange a few hives with extra combs to be filled and capped over.

I have frequently known seasons in which the brood combs were so entirely filled with brood that all the honey was stored in boxes; then the yield of honey closing abruptly, but little or no honey was stored for winter. At such times it is most desirable to have heavy cards of sealed honey that may be furnished to such colonies. In a word, we should not be so eager to secure a great surplus as to run the risk of starving our bees, which is sure to be the result of improper management.

The Danger of Procrastination.—Mrs. L. Harrison gives the following good advice on this subject in the *Prairie Farmer:*

The late Prince Napoleon lost his life by his habit of procrastination. It had always been his habit from earliest childhood to plead for a delay of 10 minutes, when requested to perform some duty, such as retiring to bed or arising in the morning, and it became fixed—as it were a part of his being. When his command desired to return to camp, his characteristic reply was: "No, let's wait 10 minutes;" and at the expiration of this time the Zulus came. Do every duty as soon as it can be done, is the only road that leads to success in temporal and moral affairs.

A few days ago, while visiting at a farm house, we noticed a colony of bees, that were clustering on the outside of the hive for want of room inside, and on our remarking to their owner, that he should give them more space, by putting on surplus boxes, his reply was: "I'm going to do so as soon as I get my corn planted." As he had but one colony, it would not have taken him much more time to have laid back the duck, and put on a box, than to have said so. Those persons who wait to plant, and work their corn, sow buckwheat, etc., before supplying their bees with surplus boxes, will find in the fall that they have no honey for their cakes. The proper date for supplying boxes varies with the climate, strength of colonies, and yield of honey. Inexperienced persons are apt to put on boxes too soon, and too many at a time. If too much space is given it cools the hive too much, and bees cannot manipulate their wax. A person, to be a successful apiarist, should become familiar with the habits of these industrious insects, and then use his judgment in their management. A farmer told us recently that during fruit bloom his bees built comb in the porticos of their hives, and he thought that they would swarm sooner if he did not put on boxes. In this locality bees sometimes store in boxes during fruit bloom, but it is rare, but if they have been well managed, they are ready to go to work in them at the commencement of white clover bloom. Care should be exercised to secure all the white honey attainable, and in the best marketable shape.

Bee-Keeping in the South.—Mr. A. F. Moon, Rome, Ga., reports as follows in *Our Home and Science Gossip*:

Some apiaries have, with little care, yielded 100 pounds to the colony on an average, the present season, and where there has been care, little swarming has resulted. There is no cold weather here, and the bees fly almost every day during the winter, but where this freedom is allowed them they consume more honey than when properly housed. They are, however, more healthy and vigorous when privileged to fly, than when confined to their domiciles.

Bees Hanging Outside the Hive.—The *Home Farmer* remarks as follows on this subject:

The next care that comes after swarming is the honey harvest. In view of this it is always advisable to give additional room at the top of the hive, and sometimes even below the hive when the season happens to be exceedingly good. The bees will often fill a cap (or super) of beautiful honeycomb before they swarm. Therefore be on the look-out, and when the season is good, the weather fine, and the bees show signs of want of room by hanging ever so little outside of the hive entrance, lose no time. Open the hole at the top and let them into the super. You must cover this well over, so as both to keep in the warmth and to protect them from a too hot sun as from wet. If their numbers still increase, and they hang out again before swarming, they must have yet more room given to them; for bees should never be allowed to remain idle; many pounds of honey are often lost to the bee-keeper in this way.

Beautiful Honey.—The *Grange Bulletin*, of Cincinnati, O., very truthfully remarks as follows:

Extracted honey is certainly the perfection of the product, though honey in the comb as yet brings the higher price. People say because it is more beautiful to the eye, but this cannot be true. Served in a stand of crystal, extracted or clear honey, golden in color and as transparent as the crystal itself, what object is more beautiful upon a well-appointed tea-table?

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY—But little comb honey is yet upon the market, and the quotations are rather premature. New extracted honey is quite plentiful, and in good demand.

We quote light comb honey, in single comb boxes, 18@20c; in larger boxes 2c. less. Extracted 7@8c.

BEESWAX—Prime quality, 18@20c.

NEW YORK.

HONEY—New honey in 1 or 2 lb. boxes will bring good prices, but as yet there is none on the market, though it is daily expected.

White extracted, 9@10c.; dark, 7@8c.

BEESWAX.—Prime quality, 18@22c.

CINCINNATI.

HONEY.—A few small lots of comb honey have made their appearance on our market, which I bought at 14@15c. per lb. I have very many offers, but there being no demand yet, I have not commenced to lay in my supply. Extracted honey ranges from 7@9c., on arrival.

BEESWAX—18@22c. C. F. MUTH.

SAN FRANCISCO.

HONEY—A small amount of new extracted is on the market, held at 9c. For choice old the above is now the bottom price with holders. There is a fair inquiry. Several sales have been effected within the week.

We quote white comb, 13@15c.; dark to good, 10@12c. Extracted, choice to extra white, 8@10c.; dark and candied, 8c. BEESWAX—23@25c.

STEARNS & SMITH, 423 Front Street.
San Francisco, Cal., July 16, 1881.

☞ The time selected by the Executive Committee for holding the National Convention, at Lexington, Ky., is October 5, 6, and 7, 1881. All bee-keepers are invited to attend and take part in the deliberations of the Convention. As Lexington is a central point, the Executive Committee hope to have a large attendance from the the North, South, East and West, and from Canada, and that the 12th annual meeting of the North American Bee-Keepers' Society will be the most interesting meeting that the bee-keepers of the United States have ever held.

The National Convention will be held during the time of holding the St. Louis Fair and the Expositions at Cincinnati and Louisville, and that all passing through those cities can get the benefit of excursion rates.

N. P. ALLEN, *Pres.*

☞ The Northwestern Bee-Keepers' Association will meet in Chicago, on Tuesday and Wednesday, October 25 and 26. All bee-keepers are cordially invited to attend. It is desired to make this one of the most interesting conventions ever held in the United States. C. C. MILLER, M. D., *Pres.*
C. C. COFFINBERRY, *Sec.*

☞ The Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association will hold its next meeting Aug. 30, at Rock City, Stephenson Co., Ill. JONATHAN STEWART, *Sec.*

☞ The Northern Michigan Bee-Keepers' Association will hold its fourth Annual Convention at Maple Rapids, Clinton Co., Mich., Oct. 11 and 12, 1881. O. R. GOODNO, *Sec.*

☞ The Southwestern Wisconsin Bee-Keepers' Association will hold its next meeting in Platteville, Grant Co., Wis., Nov. 30, 1881.
N. E. FRANCE, *Sec.*, Platteville, Wis.

SELECTIONS FROM OUR LETTER BOX

Bees Doing Well.—Bees here are doing well, gathering honey steadily from swamp woodbine and button willow. We shall have bitter-weed during August, and after that a variety of fall flowers.

OSCAR F. BLEDSOE.

Grenada, Miss., July 18, 1881.

The Honey Harvest.—The summer yield will be but ¼ crop, at most; basswood is a total failure, and white clover not much better. Bees are plenty in the hives, hang idly about, with no honey to gather. I do not expect much of a fall harvest, and that will be of a second quality. There will be no surplus to speak of in this immediate vicinity, though bees will be in good condition for winter.

C. B. WOODMAN.

Johnson's Creek, Wis., July 17, 1881.

Regained the Loss of Last Winter.—My bees are doing well. I have filled all my hives again, and they are now in good condition for another year. I like the Weekly BEE JOURNAL much, but I am glad you are to change the size of the page next year. Put me down for a life subscriber. I live 10 miles from Louisville, the only place I can get a letter registered, and sometimes I do not go to that city for 3 or 4 weeks, but I will pay up regularly, and all the time, so do not stop sending it at all. WILLIAM BENCE.

Newburg, Ky., July 15, 1881.

[With pleasure we have marked your JOURNAL to come "without ceasing." All we want to know is that it is desired. We prefer to send it thus, and hope all who desire its continuous visits will notify us, and thus save us, as well as themselves, much trouble and annoyance.—ED.]

Good Square Work.—I never saw bees work as they are doing this summer. Most of the bee-keepers of Kane county lost their bees last winter. The entire loss amounted to 1,500 colonies, at least. There never was such destruction known here before. I had enough bees left for seed.

GEO. THOMPSON.

Geneva, Ill., July 15, 1881.

Ventilating a Cellar.—My bees are doing well. I had only 2 colonies alive in the spring; they increased to 8 and gave me considerable surplus honey. I made a room in the cellar for wintering bees, immediately under a coal stove, where the atmosphere will be regularly at about 45°. I have a 2-inch tin pipe to bring in air, facing the west, running 20 feet through the cellar before entering the bee room. On the east I have a pipe 4 inches to conduct the air out through a window. Will a 2-inch pipe give enough fresh air? The room is 10 feet square, by 7 feet high, and kept from the stone wall on all sides; the floor is also raised from the ground.

D. LANTZ.

Forreston, Ill., July 19, 1881.

[A 2-inch pipe should give sufficient ventilation. It is ¼ an inch more than used by several who ventilate in a similar manner.—ED.]

Bees Doing Nothing Now.—Bees have been doing nothing for about 3 weeks. Previous to that they did well, as far as swarming is concerned; they have killed off the drones already. What the fall harvest will be, I know not. Basswood was in bloom but a few days. About ⅓ of the bees winter-killed. The weather is very hot. PETER BILLING.

Pawnee City, Neb., July 16. 1881.

Queries from Georgia.—Bees in this latitude have done well this season. Last year I had 33 colonies, and in the spring 15 died from starvation; I now have 34; from one I obtained 40 lbs. of honey and 2 large swarms. I have but one colony of black bees, and it gave a swarm of as fine Italians as I have. How came that to be the case? All the bees have three yellow bands, and are as fine as those from my imported queen. I can only account for it in this way: I had some young queens about ready to take their bridal trips, and one of them was missing; it may have gone to the swarm while they were settling. I had a swarm come out which I hived, but the queen would not stay in the hive, so I clipped her wing, and in the evening they came out again. I looked in the yard and found the queen with the clipped wing dead. I hived them again, and found another queen. They remained all right, and are doing well. This may not be new to old bee men, but I never had a like case before. I have one colony, the bees of which during the late extremely hot weather, would come out and fall from the bench, and have the ground covered with bees that could not fly. The colony has a large quantity of honey. What was the cause of their falling to the ground? How late would it be safe to extract in this country? I have just received my extractor, but am fearful it is too late to extract much. I read the BEE JOURNAL with pleasure, and would not be without it for double its cost.

H. M. WILLIAMS, M. D.

Bowdon, Ga.

[You have undoubtedly solved the problem regarding the metamorphosis of your black bees into Italians. It is not unusual for two swarms to emerge simultaneously, and, of course, one of the queens would have to desert the new hive, or perish in combat. In the case of the bees coming out of the hive and dying on the ground, it would be difficult to state definitely the cause without a critical examination of the interior of the hive; but we presume the heat softened the brood combs so that the cells were more or less distorted by the constant passing to and fro of the worker bees upon their surface, and as a consequence the young bees were deformed, and sought to die in exile. So long as there is a continued prospect of honey, it will do to extract. In your latitude, too close extracting is not necessarily fatal, as it might be here, for the Georgia winters are never so severe and protracted that there is not ample opportunity for feeding. It is, however, quite as necessary that bees in the South should have plenty of stores provided for them as in the extreme North, for often more or less breeding is going on through the winter, which consumes honey rapidly. It is not an uncommon occurrence, in the South, for bees to breed up, consume their stores, and starve before the spring honey flow sets in.—ED.]

Size of the Langstroth Hive.—DEAR EDITOR: Did you not make a mistake in giving the size of the Langstroth hive in the BEE JOURNAL for July 6, page 213? I ordered a Langstroth hive, and received one 18⅜x14⅛x9⅞. Frame, when adjusted in the hive, was ⅜ from the top and ⅞ at each end. I am aware that there are hives made which are claimed to be Langstroth hives, and nearly every one makes them of a little different size. I wish hive manufacturers would be more careful about sizes, and not guess at it so much; it would be much better for all of us, should we have occasion to exchange hives with our neighbors. I received rather a flattering report this morning for the box-hive men. It was from one of our "street-corner-hard-working-men," who has been foremost in all undertakings through life, but from appearance has met with misfortune, or he must have been a Stewart or Rothschild. Said he: "I have handled bees for over 50 years; I know all about them. The great trouble is, you do not give them room enough to build their combs; you want at least 1¾ inches for each frame—2 inches is better. Then, this transferring is all wrong; let them have their own way about building their combs. Why," said he, "I once lived down on the river bottom and had one *stand* of bees; they swarmed 14 times one season; when the last swarm came out of that hive I had nothing to put them in but a flour barrel, and so I put them in that, quite late in August. They filled that barrel full of solid white comb honey, and not a particle of brood or bee-bread in the barrel; nothing but clear honey. We sold $26 worth of honey from that barrel, and had lots left—over 300 lbs." If this is all true, I think that we had better go back to boxes and barrels.

Urbana, Ill. S. GOODRICH.

[There was a typographical error in the dimensions of the Langstroth hive, as published in the BEE JOURNAL for July 6; it should have read 9⅞ instead of 10⅞ inches in depth. The hive you purchased is correct. It would be a very important movement, if bee-keepers could determine which is the best hive, and rigidly and scrupulously adhere to the same dimensions; then one of the serious drawbacks to a free interchange of hives, frames and bees will have been overcome.—ED.]

Foul Brood, Honey Crop, etc.—Foul brood may be carried in foundation made of wax taken from foul-broody hives. A friend of mine, in this valley, with about 60 colonies, found so many of them with foul brood early in the spring, that he transferred them into new hives and boiled the old ones. He made new frames, taking a great deal of pains not to let the bees get any of the honey, but made up the wax into foundation, and after they got well filled with brood he found it worse than at first in every colony. He is satisfied that it was carried in the wax. I commenced in the spring with 75 colonies; kept them well snugged up, examining them as often as once a week, and took the old honey away from all that were honey-bound, to give the queens a chance, as they were bringing in more than needed, which is unusual here in February and March. By attending closely to them they gave me, in March and April, 45 pounds of wax, and 3,170 pounds of extracted honey. I increased to 96, with honey enough to last them through. I doubt there being any more honey in this State than we need.

S. S. BUTLER, M. D.

Los Gatos, Cal., July 14, 1881.

[There is not a possibility of foul brood being contracted by using foundation made from foul-broody combs. It is sheer nonsense, to say the least, to suppose that the infection was eradicated when your friend "boiled the old hives," yet would linger in the foundation after the several boiling processes necessary to transform the comb into a perfect sheet.—ED.]

Not Mated.—I herewith send you a young unfertilized queen. I take her to be about half-way between a worker bee and a queen—not sufficiently developed to mate with a drone. I have been watching her for three weeks; she seems to have no inclination to leave the hive to meet a drone. She is a good layer, but, like the fertile worker, locates eggs all through the hive; yet she is easily distinguished from the worker bees. I think she might be called a fertile worker; what do you think of her?

JAMES T. FIFE.

Corning, Iowa, July 17, 1881.

[We think that, excepting her diminutive size, she is a perfect queen. Either unpropitious weather, absence of drones, or other circumstances prevented her mating at the proper time, after which she became what is called a drone-layer, and lost all desire to leave the hive.—ED.]

How to Winter Bees.—I lost 24 colonies of bees last winter and spring, by dysentery. They were in an underground house, well ventilated, as I thought, but they became damp, and I could not prevent it. Wintering appears to be the great problem, the solution of which is necessary to success in apiculture, and I greatly desire to have the views of the editor of the BEE JOURNAL on the subject. Which is better, a winter depository above or below the ground? Will it do for the hives to be placed in rows, with a shed built over them and on one side, leaving entrances open, as recommended by some? Different localities require varied kinds of preparation, and there are so many things to be considered that I find myself in a quandary. As with all other avocations, with all the teachings and experiences of others, nothing is so sure of success as good brains well used. G. B. OLNEY.

Atlantic, Iowa.

[Our views have been given several times of late, on wintering, and on the fourth page of the JOURNAL for last week we gave statistics on last winter's losses, and "our views" upon them. Next week we shall give a long article from Mr. Ch. Dadant, on the same subject—all of these we commend to the careful study of our correspondent, as an answer to his queries.—ED.]

The Honey Season in Texas.—Our spring honey season being over, I now send you my report to June 20. I wintered without any loss, including several 2-frame nuclei. I commenced in the spring with 7 colonies; up to June 20 I took 968 pounds of surplus honey and increased to 20 good colonies. Continued dry weather cut the honey season fully 2 weeks short. I think our fall honey will compare favorably with any in the world, both in appearance and delicacy of flavor—most of our spring honey being nearly white. Bees are now gathering honey dew from oak and elm, to a limited extent, but the quality is very poor, and the color is dark. I am glad to see it coming in, anyhow, for it keeps up brood-rearing, and makes it favorable for rearing queens.

JAS. G. TAYLOR.

Austin, Tex., July 11, 1881.

Brushing off the Bees.—I commenced this season with 22 colonies and have increased to 75, mostly by natural swarming. I extracted 600 pounds of white clover honey, and have 25 colonies working in the section-boxes. Basswood is just commencing to bloom. Is there any danger of losing queens, when brushing off the bees in front of the hive, if she should happen to be in the second story when extracting, or should I look for her? EMIL PETERMAN.

Oostburg, Wis., July 12, 1881.

[You should look at every comb taken out, whether you want the queen or not. She is frequently in the second story.—ED.]

Heavy Crop of Honey.—Bees are now doing their "level best" on gathering honey. Another week or two like the past one will secure for us a heavy crop of honey.

GREINER BROTHERS.

Naples, N. Y., July 20, 1881.

SPECIAL NOTICES.

☞ Single copies of the JOURNAL sent postage paid for 5 cents each.

☞ Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

☞ When changing a postoffice address, mention the *old* as well as the new address.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or $8 per 100.

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Photographs of prominent Apiarists—Langstroth, Dzierzon, and the baron of Berlepsch.—Price 25 cents each.

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Because it adds to Personal Beauty by restoring color and lustre to gray or faded hair, and is beneficial to the scalp, is why Parker's Hair Balsam is such a popular dressing. 27w4

A Sample Copy of the Weekly BEE JOURNAL will be sent *free* to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

Examine the Date following your name on the wrapper label of this paper; it indicates the time to which you have paid. *Always* send money by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, or local checks, are not taken by the banks in this city except at a discount of 25 cents, to pay expense of collecting them.

Premiums.—For a club of 2, *weekly* we give a copy of "Bees and Honey;" for a club of 5, *weekly*, we will give a Cook's Manual, a Bee-Keeper's Guide, bound in cloth; for a club of 6, we give a copy of the JOURNAL for a year *free*. It will pay to devote a few hours to the BEE JOURNAL.

It is a Foolish Mistake to confound a remedy of merit with the quack medicines now so common. We have used Parker's Ginger Tonic with the happiest results for Rheumatism and Dyspepsia, and when worn out by overwork, and know it to be a sterling health restorative.—*Times.* See adv. 27w4

☞ It would save us much trouble, if all would be particular to give their post office address and name, when writing to this office. We have letters (some inclosing money) that have no name, post-office, County or State.—Also, if you live near one postoffice and get your mail at another, be sure to give the address we have on our list.

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and Gleanings in Bee-Culture (A.I.Root)	3 00..	2 75
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THE AMERICAN BEE JOURNAL

ESTABLISHED IN 1861

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THOMAS G. NEWMAN,
974 West Madison Street., **Chicago, Ill.**

Contents of this Number.

Bingham Smoker Corner.

Oxford, O., June 29, 1881.

Messrs. Bingham & Hetherington, Abronia, Mich. Gentlemen: Your uncapping knife has been well tested in the Apiary of Mr. D. McCord, my neighbor. In his opinion (and I agree with him) it is far in advance of any knife which he has ever used.

Yours very truly, L. L. LANGSTROTH.

Sunny Side, Napa, California, June 10, 1881.

T. F. Bingham, Abronia, Mich. Dear Sir: Please send me by mail two Large, six Extra, and 4 Plain Standard Bingham Smokers. Your four years' old Smoker is still in use, and does good service, the only trouble being it is too small. I require the large size. I have a large and small Quinby (small one condemned), the other I get along with by repairing often. As far as I have tried them I prefer yours above all, and shall keep them in stock. Yours Truly, JOS. D. ENAS.

27w4